UiO : Faculty of Medicine
University of Oslo

MF9010E Introductory Course to the Medical PhD Programme (INTRO I English), Autumn 2016

WEEK 46/47 2016	FRIDAY 18.11.2016 Nye Auditorium Domus Medica	MONDAY 21.11.2016 Auditorium 4 Harald Schelderups hus	TUESDAY 22.11.2016 Nye Auditorium 13 Domus Medica	WEDNESDAY 23.11.2016 Runde Auditorium R-105 Domus Medica tilbygg	THURSDAY 24.11.2016 Nye Auditorium 13 Domus Medica	FRIDAY 25.11.2016 Nye Auditorium 13 Domus Medica
0900-0945	Start-up seminar for the PhD Programme 09:00 **PhD Programme from A to Z** *K Moen, M Bremer & L Munthe*	**On academic formation** *Kåre Moen*	**Philosophy of science I:** What is scientific knowledge? *Bjørn Hofmann*	**Review of lectures and group work** *Kåre Moen and Uta Sailer*	**Biomedicine and bioinformatics** *Robert Lyle*	**Statistics** *Jon Michael Gran*
1000-1045	10:00 **Privacy and Information Security in Research** *Katrine Ore*	**Group work 1** *Kåre Moen and Uta Sailer*	**Philosophy of science I:** What is scientific knowledge? *Bjørn Hofmann*	**Philosophy of science III:** Interpretation *Per Nordtvedt*	**A critical review of research methodology** *Nina K Vøllestad*	**Statistics** *Jon Michael Gran*
1100-1145	11:30 **The Research Ombudsman** *Peter Kierulf*	**What is medical and life science research?** *Ludvig Munthe*	**Group work 2** *Bjørn Hofmann*	**Qualitative research** *Anne-Lise Middelthon*	**Article workshop** *Kåre Moen and Uta Sailer*	**Statistics** *Jon Michael Gran*
1145-1230	12:15 - 13:00 **Lunch**	*Lunch*	*Lunch*	*Lunch*	*Lunch*	*Lunch*
1230-1315	(13:00) **Welcome to Intro I** *Kåre Moen and Uta Sailer*	**Methods in medical research** *Magne Nylenna*	**Philosophy of science II:** Explanation and Causality *Bjørn Hofmann*	**Qualitative research (cont'd)** *Anne-Lise Middelthon*	**Medical history/ historization** *Christoph Gradmann*	**Ethical issues adressed in course participants' project descriptions** *Jan Helge Solbakk*
1330-1415	**Research ethics** *Jan Helge Solbakk*	**Methods in medical research (cont'd)** *Magne Nylenna*	**Philosophy of science II:** Explanation and Causality *Bjørn Hofmann*	Seminar2: Basic sciences **Molecular and cellular biology** *Jason Matthews*	Seminar 3: Health and society **Community medicine** *Øyvind Næss* **Global health** *Andrea Winkler*	
1430-1515	**Research ethics (cont'd)** *Jan Helge Solbakk*	Saminar 1: Clin. research **Medical research** *Hanne Løvdal Gulseth* **Nutrition** *Kjetil Retterstøl*	**Epidemiology** *Per Nafstad*	Seminar2: Basic sciences **Translational research** *Ian Mills*	Seminar 3: Health and society **Minority health** *Anne Karen Jenum* **Health economics** *Tor Iversen*	
1530-1615	**Ethics of science** *Jan Helge Solbakk*	Saminar 1: Clin. research **Surgical research** *Jøran Hjelmesæth* **Psychiatric research** *Linda Elise Wüsthoff*	**Epidemiology (cont'd)** *Per Nafstad*	Seminar2: Basic sciences **Stem cells** *Jan Brinchmann*	Seminar 3: Health and society **General practice** *Anh Thi Tran* **Medical anthropolopgy** *Ruth Jane Prince*	**Review of course & intro to course exam** *Kåre Moen and Uta Sailer*

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Course aims

The overall aim of the *Intro I* course is to introduce basic knowledge in the philosophy, history, ethics and methods of science with specific focus on convergence and interdisciplinary approaches.

Medical research has become interdisciplinary. Cross-disciplinary cooperation and integration of multiple research fields has allowed the development of new knowledge and enabled new applications. This development is often called convergence. In this course, we will exemplify convergence by showing how a multifaceted problem can be addressed from different angles. We have chosen morbid obesity as our case; this thematic area will be engaged with in order to give participants concrete examples of general principles and approaches. Note, however, that the course is not meant as a formalized introduction to obesity research – obesity is merely used as a case to exemplify modern research trends.

Multiple, integrated methods and tools can be applied to elucidate this thematic area, including randomized controlled trials, R&D initiatives in primary health care, municipal initiatives, programs for increased physical activity, and cooperation with NGOs are examples. In the social context, prevention requires increased awareness in schools and in the public, as well as enhanced knowledge about nutrition, public health initiatives, product innovation, dissemination of healthcare products and political decision making.

This course provides an introduction to a variety of scientific perspectives and skills that are required to address such a complex issue. The course focuses on research ethics and philosophy of science, and introduces a breadth of research methods, including epidemiology, statistics, and qualitative research. In addition, genetic studies, basic research studies, cell physiology and pathophysiology, and studies of laboratory animals are introduced. The students will work in groups to elucidate the issue from their own point of view.

About the course

This one week course consists of preparatory work, lectures, workshops, group work and an “article workshop”,

- **Preparatory work:** Before the start of the course, you must submit a description of yourself and your own research project. These descriptions are actively used as examples by several lecturers in the course (e.g., in the lecture entitled “Methods in Medical Research”).

- **Mini seminars:** The course has three mini seminars during which research in different medical disciplines are discussed with a special focus on research methodology (with examples from ongoing research at UiO).

- **Group work:** The course has two group work sessions during which you will have the chance to engage in discussions with other participants about core topics covered in the course.

- **Article workshop:** In preparation for the *Article workshop* (which also has a group work format), you should search PubMed with the aim of identifying an article that you will present to the other members of your group. The article should be from your own research field/research tradition and have a focus on obesity. Please

distribute the article to the other group members at least one day before the Article workshop. During the workshop, each group member will present his or her article to the others, and provide a discussion of it that critically reviews the research methods used.

- **Web course:** An internet-based course about legal requirements and ethical practices in medical and health research is integrated into the first day of the course. Course participants are requested to bring their own laptop computer to the course on this day.

Course Exam

The course exam has 3 tasks.

Each task must be competed individually by course participants. However, you are allowed, even encouraged, to discuss the exam tasks with other course participants, your supervisors, or other researchers in your group.

All of the exam tasks require that you use references (from the course literature, other publications, lectures, etc.) and cite these appropriately and correctly. (For basic information on referencing, you may want to consult http://www.ub.uio.no/english/writing-referencing/ and http://sokogskriv.no/en/sources-and-references/).

When typing up your exam, use the Times new Roman font, font size 12.

Upload your exam paper as one single document in Fronter no later than 2 weeks after the end of the course.

Task 1: Based on the discussion in Group work 1, with additional input from later lectures and relevant literature, please provide an overview of the range of research methods that may be used to research various aspects of obesity. (Max 2 pages).

Task 2: Prepare a summary of the article you presented in the *Article workshop*. The summary should contain a brief description of the aim of the study, the research methods used, findings, and conclusions. Discuss strengths and weaknesses of the study, and provide an assessment of whether the method(s) used were appropriate to address the research question under consideration.

Task 3: Write a short reflection note on one of the following themes (minimum 2 pages, maximum 4 pages):

- Ethical challenges in medical research
- Convergence in life science and medical research: Possibilities and challenges
- Causality in medical research

You may use your own research, obesity, or any other topic as example. Draw on perspectives that have been presented during this course.

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Course literature

Required reading:

Laake P., H.B. Benestad and B.R. Olsen. **Research in Medical and Biological Sciences - From Planning and Preparation to Grant Application and Publication (2nd Edition).** Amsterdam (2015): Elsevier Science Publishing Co Inc.

Kindle edition: http://www.amazon.com/Research-Medical-Biological-Sciences-Preparation-ebook/dp/B00ZC90GWG/ref=mt_kindle?_encoding=UTF8&me=
Individual chapters: http://www.sciencedirect.com/science/book/9780127999432

Other readings:

Biomedical laboratory research

Haakon B. Benestad & Jens-Gustav Iversen: An introduction to biomedical laboratory research, 1999

Theory of science, research ethics and science ethics:

Hofmann, Bjørn; Holm, Søren; Iversen, Jens Gustav Heber. Philosophy of Science. In: Research Methodology in the Medical and Biological Sciences. London: Elsevier 2007. ISBN 978-0-12-373874-5. p. 1-32

Holm, Søren. Ethics and Scientific Conduct. In: P Laake, HB Benestad and B Olsen: Research Methodology in the Medical and Biological Sciences. London: Elsevier 2007. ISBN 978-0-12-373874-5. p. 33-52.

Iversen BG, Hofmann B, Aavitsland P. Questions on causality and responsibility arising from an outbreak of Pseudomonas aeruginosa infections in Norway. Emerging Themes in Epidemiology 2008; 5: 22. doi:10.1186/1742-7622-5-22

Hofmann, B. That's not science! The role of moral philosophy in the science/non-science divide. Theor Med Bioeth. 2007;28(3):243-56.

Hofmann B, Holm S, Myhr AI: Scientific dishonesty—a nationwide survey of doctoral students in Norway. BMC Medical Ethics 2013 14:3.